REMARKS

Claims 1-3, 5, 7, 9, 11-16 and 21-26 stand rejected under 35 USC 102(b) as being anticipated by Cleve. The Examiner stated the following in the office action:

> Cleve teaches a method of claims 1 and 12 comprising:
> ... obtaining a barcode comprising two or more tags attached to an organic molecule backbone (see page 245, columns 1 and 2, wherein the branched DNA amplifier molecule has 15 branches with four copies of a sequence which bind to labeled probes, where binding of the labelled probes will result in two or more tags attached in a noncovalent manner to an organic molecule backbone), ...

Claim 1 as amended involves "A method comprising: obtaining a barcode comprising two or more different types of tags attached to an organic molecule backbone; binding the barcode to a target; and detecting the barcode bound to the target, wherein the backbone comprises one or more branched nucleic acids and the barcode is detected by a technique selected from the group consisting of fluorescent spectroscopy, Raman spectroscopy, Fourier transformation infrared spectroscopy (FTIR), and surface plasmon resonance." In other words, there are ***different*** types of tags on the barcode of the claimed embodiments of this invention. Different types of tags increase the possible combinations of available barcodes, just as the conventional barcodes with black and white stripes have multiple lines of different thicknesses to increase the possible combinations of barcodes.

Cleve does not teach barcodes having two or more different types of tags. Cleve discloses a branched DNA amplification multimer which has several copies of one type of tag. On page 245, column 2, Cleve states "The branched DNA amplifier molecule thus contains as many as 60 sites for binding labelled probes. ...At the 5' end, a single fluorescein amidite was used to label the probe." Thus, the disclosed branched DNA amplifier molecule has 60 copies of one kind of tag.

The branched DNA amplification multimer is used to increase the sensitivity for detecting an analyte by attaching several copies of one type of tag to the analyte so that a stronger signal can be obtained from the tags. Accordingly, a barcode comprising two or more types of tags as claimed is not disclosed by Cleve, and Applicants respectfully request that the 102(b) rejection against claims 1-3, 5, 7, 9, and 11 be withdrawn.

Claim 12 as amended involves "A method comprising: obtaining a nucleic acid template comprising a backbone comprising a container section and a probe section; and hybridizing two or more tagged oligonucleotides to the container section to create a barcode, wherein the backbone comprises one or more branched nucleic acids and the container section comprises two or more different types of tags, and wherein the barcode is detected by a technique selected from the group consisting of fluorescent spectroscopy, Raman spectroscopy, Fourier transform infrared spectroscopy (FTIR), and surface plasmon resonance." Again, Cleve does not teach a barcode with a container section having two or more different types of tags, and Applicants respectfully request that the 102(b) rejection against claims 12-16 and 21-26 be withdrawn.

Claims 1-3, 5, 7, 9-26 stand rejected under 35 USC 103(a) over Singer in view of Urdea and further in view of Horn. In regard to the 103(a) rejection, the Examiner stated the following:

> So an ordinary practitioner, interested in sensitive detection using the bar code method of Singer, would have been motivated to further amplify the signal of the bar codes with branched DNA since Urdea indicated that branched DNA improved sensitivity and Horne expressly indicates that branched DNA use in in situ hydridization assays shortened the time to completion while also providing considerably greater fluorescence signal.

Claims 1 and 12 as amended involve a barcode with a branched DNA backbone comprising two or more different types of tags. The cited references do not disclose the claimed embodiments, and the combination of Urdea and Singer as suggested by Horn is not the claimed invention. The

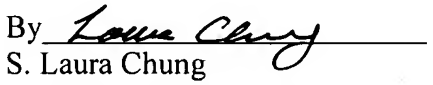
desire to increase the sensitivity of bar code detection pointed out by the Examiner motivates an ordinary person to attach multiple copies of the same type of tag so that a stronger signal can be obtained and the background noise can be reduced. It does not motivate an ordinary person skilled in the art to attach different types of tags to the branches as claimed in amended claims 1 and 12 because doing so will reduce the sensitivity rather than increase the sensitivity. The branched DNA amplification multimer disclosed by Urdea also uses only one type of tag so that a stronger signal can be obtained and the background noise can be reduced. Horn's paragraphs [0110] and [0111] cited by the Examiner also disclose the advantage of using branched DNA amplification multimer to obtain a stronger signal with reduced background noise. To increase the sensitivity, one would attach several copies of one type of tag to amplify the signal, and the result of such a combination would not be the embodiments claimed in claims 1 and 12 as amended. Accordingly, Applicants respectfully request that the 103(a) rejection be withdrawn.

In view of the above, each of the presently pending claims in this application is in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. **070702006700**.

Dated: February 22, 2007

Respectfully submitted,

By 

S. Laura Chung
Registration No.: 59,875
MORRISON & FOERSTER LLP
1650 Tysons Blvd, Suite 300
McLean, Virginia 22102
(703) 760-7312